After Sales Technical Documentation
NHD–4 Series Transceivers

Service Tools

Original 11/97

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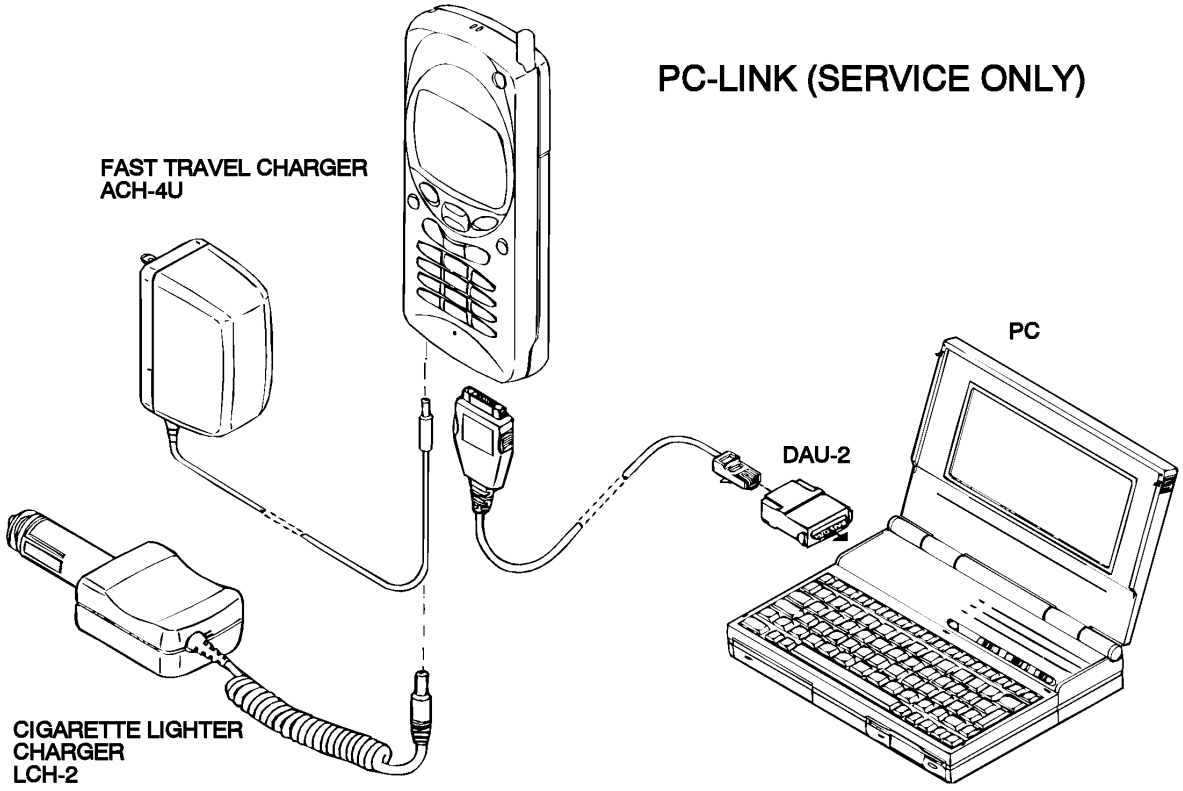
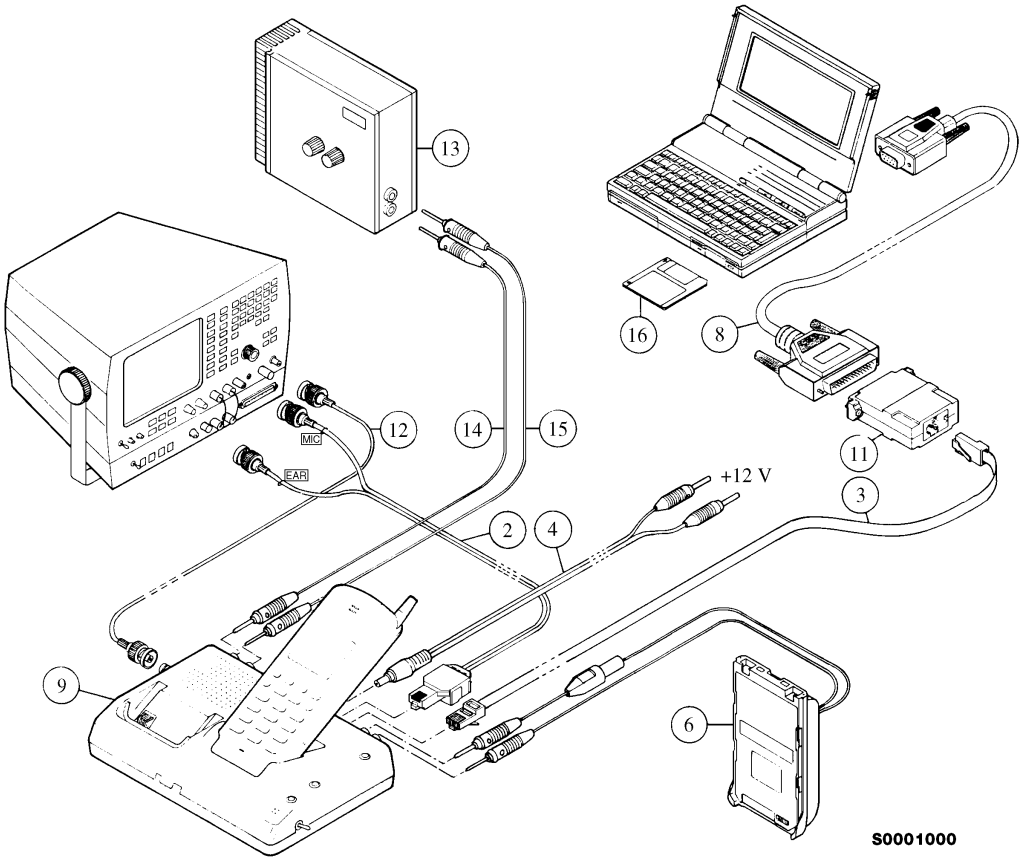
Phone and Service Accessories Connections

MBUS Link

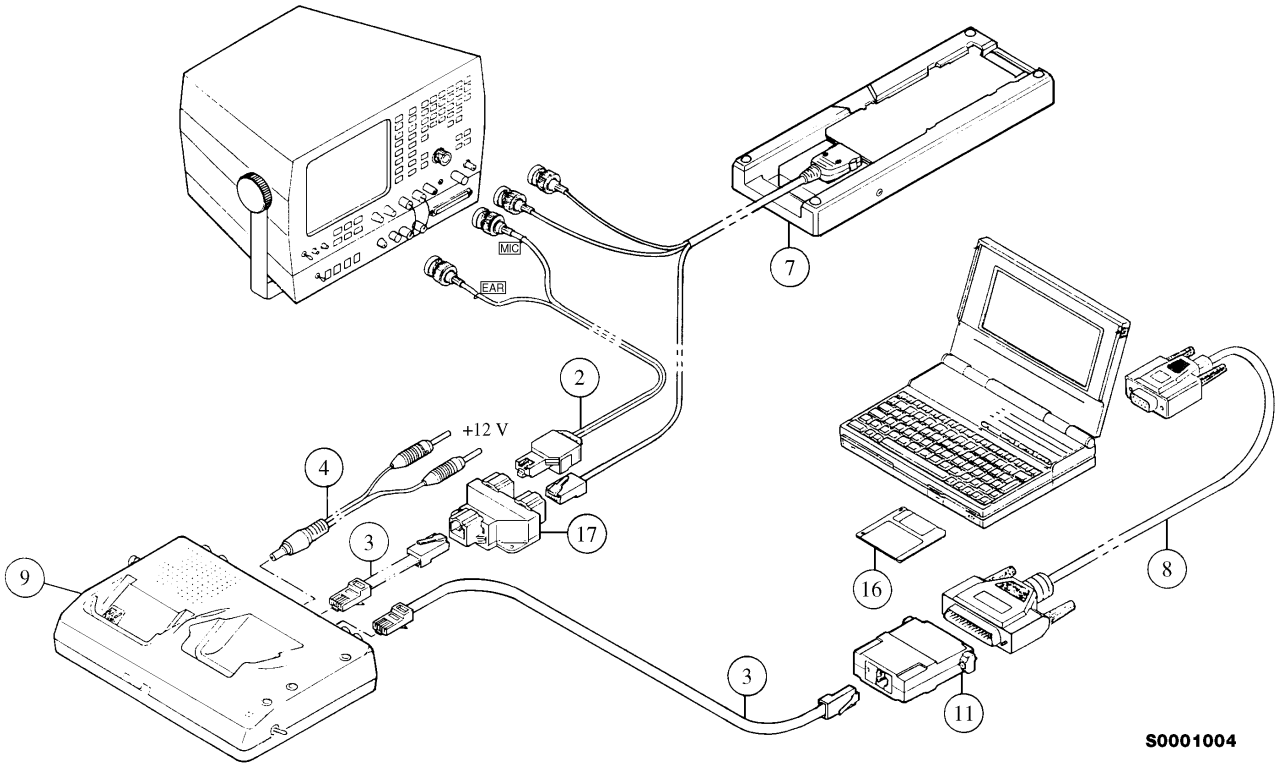


Equipment Setup For Tuning A Phone With Covers



Item:	Service accessory:	Product code:
2	Audio cable, ADS–1	0730011
3	Modular cable, XCM–1	4626131
4	Power Connector, PCS–1	0730012
6	Dummy battery, BTS–4	0770009
8	RS–232 adapter (9 pin to 25 pin)	4626170
9	Service box, JBS–7	0770015
11	PC/M2BUS adapter, DAU–2	0750006
12	BCN cable (not available)	
13	Battery tester BT–20	4626146
14	Banana cable (not available)	
15	Banana cable (not available)	
16	Service Software diskette 3.5”,	0067261
–	Software protection key, PKD–1	0750018

Equipment Setup For Tuning A Phone Without covers

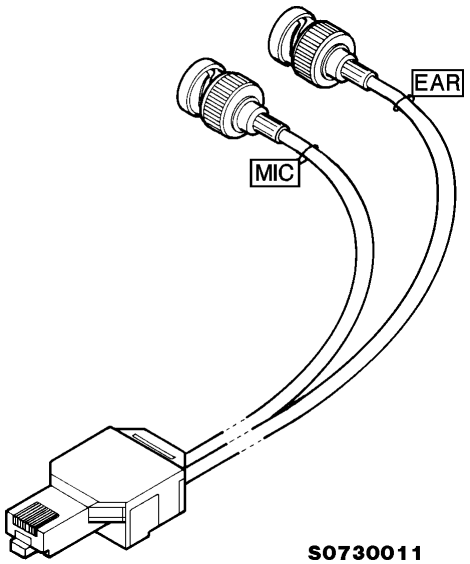


Item:	Service accessory:	Product code:
2	Audio cable, ADS–1	0730011
3	Modular cable, XCM–1	4626131
4	Power connector, PCS–1	0730012
7	Test frame, JBS–8	0770014
8	RS–232 adapter (9 pin to 25 pin)	4626170
9	Service box, JBS–7	0770015
11	PC/M2BUS adapter, DAU–2	0750006
16	Wintesla diskette 3.5”,	0067261
17	Modular T–connector	4626134
–	Software protection key PKD–1	0750018

Service Accessories

Audio Cable ADS–1

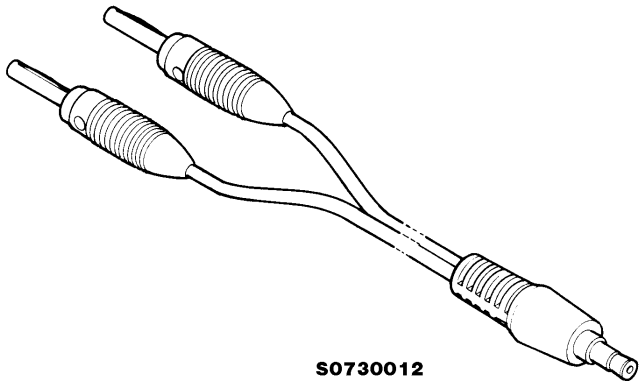
Product code: 0730011



Audio cable is an adapter routing AF signals (MIC/EAR) from 8 pin modular connector to two BNC connectors.

Power Connector PCS–1

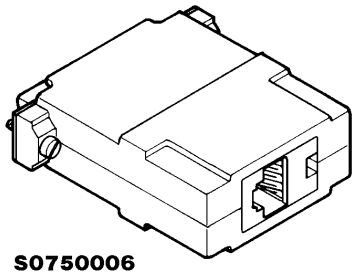
Product code: 0730012



Suitable adapter between JBS–7 and the power supply.

PC/MBUS Adapter DAU–2

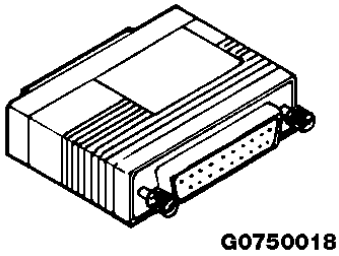
Product code: 0750006



DAU–2 is connected between the phone and the serial (COM) port of the PC. It matches the M2BUS data bus signals to the serial data bus of the computer.

SW Security Device ”Dongle” PKD–1

Product code: 0750018



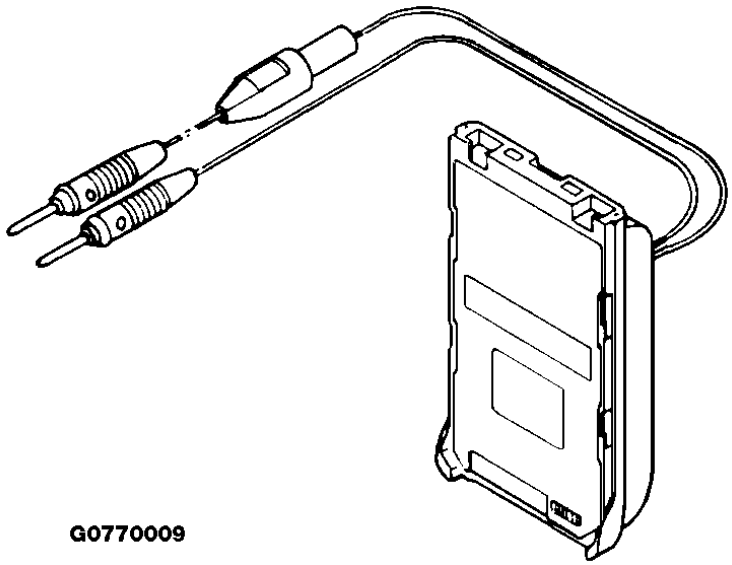
SW security device ”Dongle” is a piece of hardware enabling the use of the PCLocals when connected to the parallel (LPT) port of the PC. Whitout the dongle present it is not possible to use the service SW. Printer or any such device can be connected to the PC through the dongle if needed.

***Caution**: Make sure that you have switched off the PC and the printer before making connections!*

***Caution:** Do not connected the PKD–1 to the serial port. You may damage your PKD–1!*

Dummy Battery Pack BTS–4

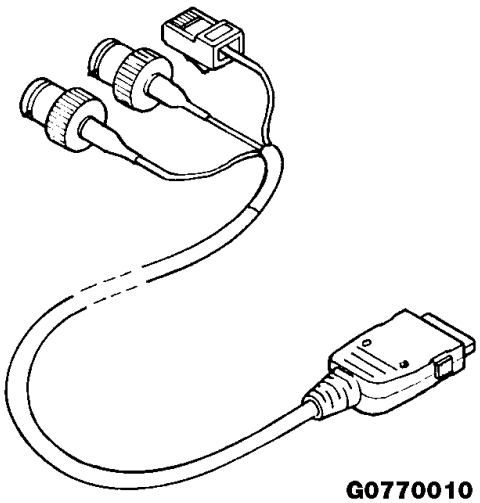
Product code: 0770009



Dummy battery is convenient device when the battery reference voltage is to be programmed. JBS–7 has a voltage setting for supplying specified reference voltage needed for this programming. Of course the BTS can be used to substitute the normal battery also during normal testing, and optionally the input d.c. may be taken from some external power supply. However, one should take care not to exceed the voltage rating of the phone.

Service Cable SCS–1

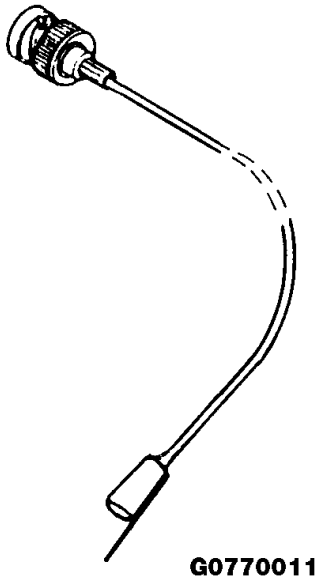
Product code: 0770010



Service cable SCS–1 is an adapter routing RF signal(s) from phone bottom connector to two BNC connectors. It also contains modular connector that can be used to service purposes.

RF Adapter to Top Antenna Connector

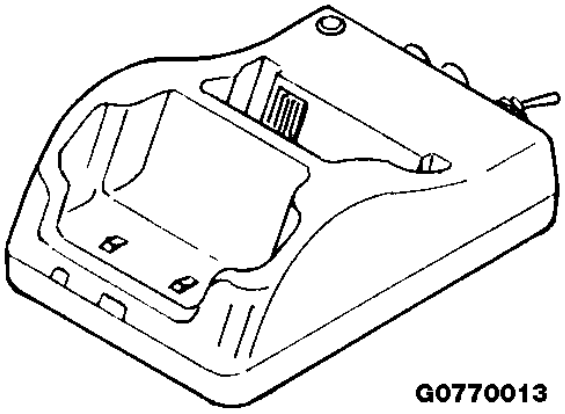
Product code: 0770011



AAS–3 provides a connection from top antenna connector to the measurement device. The accuracy of the connection is not as good as with bottom antenna connector.

Battery Adapter BDS–2

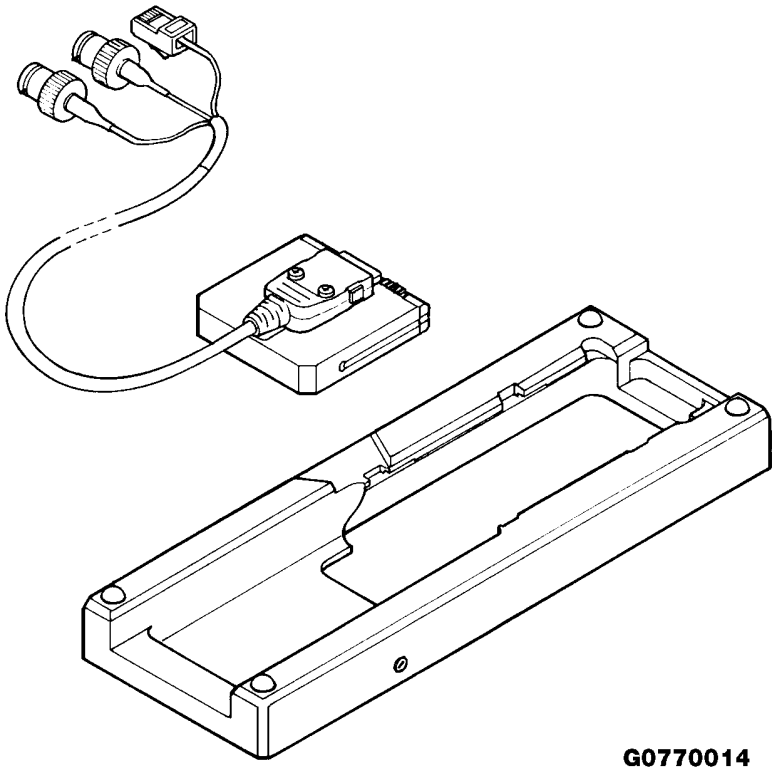
Product code: 0770013



Battery adapter is used when the condition of the battery pack is to be tested with either internal discharging feature, or with external capacity meter. It provides a suitable mechanical interface for charging and discharging.

Test Frame JBS–8

Product code: 0770014



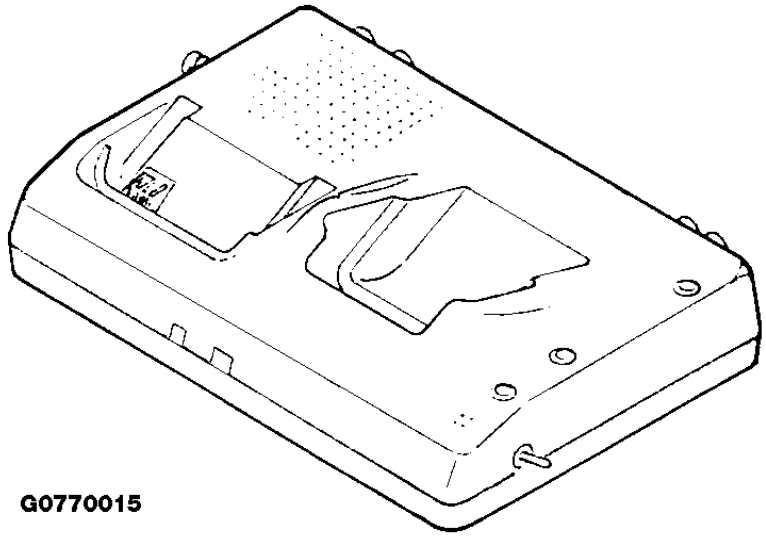
JBS–8 is used when the service work must be done without covers in the phone.

The phone's radio module is placed into plastic frame, which provides the needed connections to the bottom– and battery connectors of the phone. RF connection is done by RF cable, which is as well included into the JBS–8.

Suitable d.c. power supply regulation for JBS–8 concept is provided by example JBS–7. Note, that the UI module (flex) is not required in this environment. Note also, that some of the signal values give wrong results when RF shields are removed. Hence the phone should never be tuned without the shields.

Service Box JBS–7

Product code: 0770015



Service box provides convenient test environment (regulated power supply, M2BUS, preset battery reference voltage, external RF connection, audio test loops, HOOK switch etc.) and mechanical interface in one box.

When AUDIO switch of JBS–7 is INT position, the AF signals are routed normally to the modular–type system connectors. When in EXT position, the AF signals are routed from the speaker pin of the bottom connector straight back to the external microphone pin of the phone. Thus the speech codec of the phone is able to feed the internally generated test signal to the loudspeaker line, and measure the same signal from the EXT MIC line. Whenever audio signals are to be monitored or measured outside the phone, the AUDIO switch of the JBS–7 **must** be in INT position.

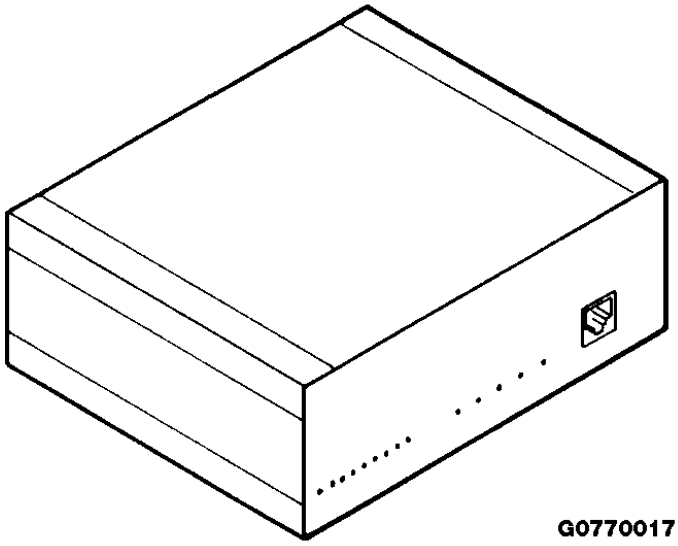
HOOK switch of the JBS–7 enables the audio signals to be routed to and from the phone via the bottom connector also when the phone is in cellular mode, for example during a test call to some cellular tester. When HOOK switch is in OFF position and the phone in cellular mode, the audios are always routed to earpiece and internal microphone.

Additionally JBS–7 has a spare battery slot, though which the battery may be connected to external capacity meter.

***Note**: When tuning the NHC–1 analog mode maximum power, do not use more than 10 volts d.c. in the power supply input of the JBS–7.*

Flash Prommer FPS–3C

Product code: 0770110
Flash Programming Set: 0271330

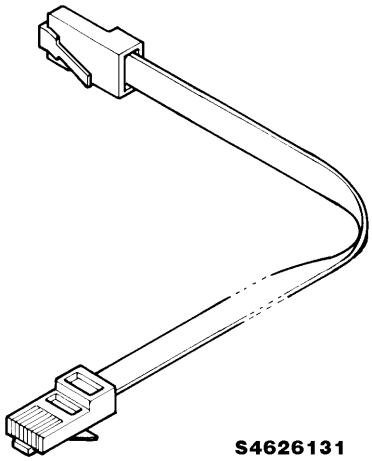


FLASH prommer is used to update the main software of the phone, should that some day become necessary. Updating is done by first loading the new MCU software from PC to the FLASH prommer and then loading the new SW from prommer to the phone. When updating more than one phone in a row, the new MCU SW must be loaded to the prommer only in the beginning.

Service software (called also Wintesla) is used to control the functions of the phone with IBM PC/AT/–386/–486/–586 or compatible personal computer during the service work.

Modular Cable XCM–1

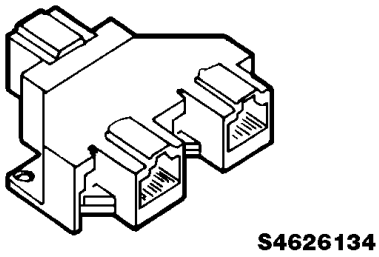
Product code: 4626131



XCM–1 is a standard 1 meter long flat cable with male modular–8 connectors in both ends. In a complete service concept three pieces of the XCM–1 is needed.

Modular T–Adapter

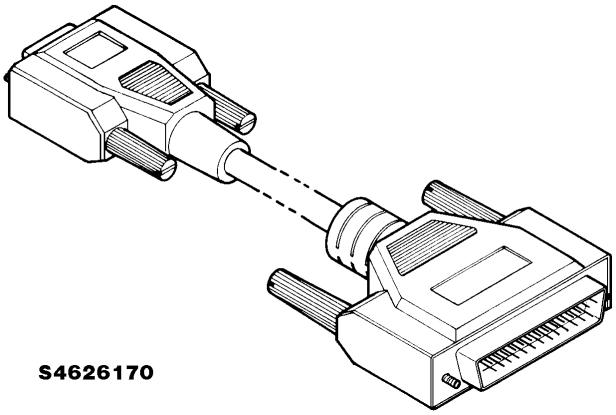
Product code: 4626134



Modular T–adapter is suitable branching unit to provide the needed parallel modular connections.

D9/D25 RS–232 Adapter

Product code: 4626170



Suitable adapter between DAU–2 and computers having 9 pin D connector as a serial port.